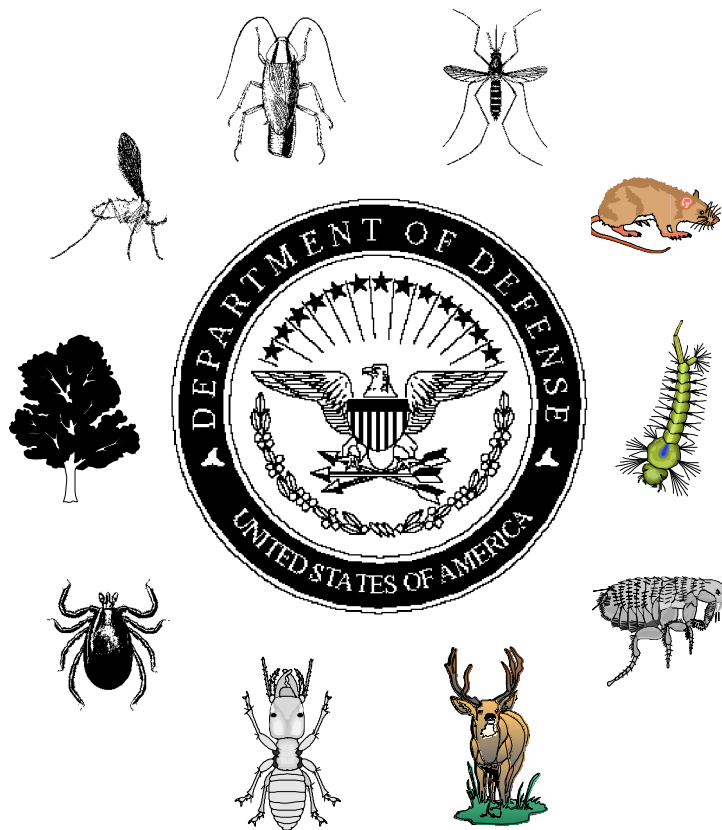


**OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE FOR
ENVIRONMENTAL SECURITY**

TECHNICAL INFORMATION BULLETIN

**ARMED FORCES PEST MANAGEMENT BOARD
DEFENSE PEST MANAGEMENT INFORMATION ANALYSIS CENTER**



NOV-DEC 1996

**DEFENSE PEST MANAGEMENT INFORMATION ANALYSIS CENTER
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TECHNICAL INFORMATION BULLETIN (TIB)

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ANNOUNCEMENTS

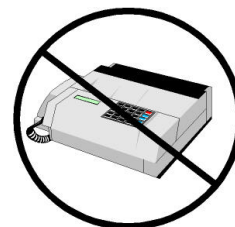
Dr. Robert Traub Passes Away -Many readers of this Bulletin will be saddened to learn of the death on 21 December of Dr. Robert Traub, Colonel, U.S. Army (Retired) at the National Naval Medical Center in Bethesda, Maryland. The world's foremost authority on fleas and flea-borne diseases, Dr. Traub was also internationally renowned for his central role in the chemoprophylaxis of chigger-borne rickettsiosis (scrub typhus, tsutsugamushi disease) in the years following World War II. As well, he was a consummate evolutionary theoretician, focusing on host-parasite zoogeography and coevolution. But though these abilities and achievements cemented his status as one of the two or three greatest medical entomologists of this century, Dr. Traub remained all his life a self-effacing gentleman of legendary generosity and charm.

Robert Traub was born in the Borough of New York (Manhattan) on 26 October 1916. Imbued from childhood with a passion for natural history, he earned degrees in biology and medical entomology from three of this country's premier academic institutions: City College of New York B.S., cum laude, 1938), Cornell University (M.S., 1939), and the University of Illinois (Ph.D., 1947). In 1943, he was commissioned into the U.S. Army and served with distinction in the China-Burma-India Theater of Operations. Subsequent assignments included the U.S. Army Typhus Commission, U.S. Army Medical Research Units in Malaya and Borneo, and the Commission on Hemorrhagic Fever in Korea. From 1946 to 1955 he was Chief, Department of Entomology, Walter Reed Army Medical Center. He then became Commanding Officer of USAMRU (Malaya). In 1959, he was appointed Chief, Entomological Research Branch, and Interim Chief, Preventive Medicine Branch, Army Medical Research and Development Command. He retired from the Army in 1962 to assume the rank of Professor in the Department of Microbiology, University of Maryland School of Medicine, Baltimore. Needless to say, throughout his eminent career, he was showered with medals, honors and awards from the U.S. military, academe, and foreign governments.

Dr. Traub was an early participant in the activities of the AFPMB and maintained a genuine interest in Board functions to the end of his life. His profound impact on military medical entomology should remind us that, even in this crowded world, individual lives have meaning. Indeed, to this writer and to legions of devoted friends everywhere, he is simply irreplaceable. ---Dr. Robbins, DPMIAC.

AFPMB COMMAND FAX To Be Discontinued

Due to limited use, realignment of AFPMB resources and the availability of newer technologies, the AFPMB Command Fax will be taken off line effective 1 January 1997. We thank



you for your patronage during the life of this system and we are certain you will find that our World Wide Web homepage (<http://www-afpmb.acq.osd.mil>) and DENIX

(<http://denix.cecer.army.mil/denix/denix.html>)

provide superior access to AFPMB documents and publications.

AFPMB/DPMIAC Activities

- **Revised DoD Directory:** The Armed Forces Pest Management Board has published and distributed an updated version of the DoD Directory of Pest Management Professionals and Natural Resources Managers. This Directory, which contains over 1000 entries, will also be available electronically on the Defense Environmental Network and Information Exchange (DENIX) (<http://denix.cecer.army.mil/denix/denix.html>) as part of the DoD-only menu.
- **Plan for the Certification of Pesticide Applicators:** DoD's plan for training and certification of pesticide applicators DoD 4150.7-P, has been submitted to the EPA for review and approval before printing and distribution. The next step will be a notice by the EPA in the Federal Register of their intention to approve the plan, followed by a public comment period.
- **DoD Manual on Pest Management Training** This Manual is being prepared for formal coordination with the DoD Components and will provide guidance to the Components on DoD pest management training issues not covered in DoD 4150.7-P.

MEDICAL ENTOMOLOGY

Cat Scratch Disease and Fleas -While a scratch may be the principal route for transmitting cat scratch disease (CSD) from felines to humans, the common

cat flea (*Ctenocephalides felis* (Bouché)) is probably the most frequent vector of infection among cats, according to Jane Koehler, MD, and colleagues at the University of California, San Francisco and Davis. These workers recently performed two controlled studies showing that direct cat-to-cat transmission of *Bartonella* (formerly *Rochalimaea*) *henselae*, the agent of CSD, did not occur in the absence of fleas. "These data suggest that control of flea infestation may reduce the number of insects capable of transmitting *B. henselae* from cat to cat, and that in turn will reduce the feline reservoir from which humans can become infected via a cat scratch," Koehler said.

CSD infections apparently cause no harm to cats, which show no symptoms. In humans, however, an inflammation begins around the scratch site and progresses to swelling of the lymph nodes and low-grade fever. "Our real concern is infections in AIDS patients," said Koehler. *Bartonella henselae* infection in people with weakened immune systems can lead to a potentially fatal disease called bacillary angiomatosis, which looks like Kaposi's sarcoma. In a recently published study of bacillary angiomatosis, Koehler and her associates identified the cat as the reservoir of *B. henselae* and estimated that 41% of the cat population in the greater San Francisco Bay area could be bacteremic. Additional studies in other parts of the United States have also demonstrated that feline *B. henselae* infection is very common.

In their experiments, Koehler and her coworkers first evaluated the ability of cat fleas to transmit *B. henselae* by removing fleas from infected cats and transferring them to uninfected kittens living in a flea-free enclosure. Such kittens invariably became infected with *B. henselae*. The researchers then put infected and uninfected kittens together in a flea-free environment for 21 days. In contrast to flea-borne transmission, direct cat-to-cat transmission among kittens could not be demonstrated in the absence of fleas.

Koehler has not ruled out the possibility of flea-borne cat-to-human transmission of CSD but notes that though flea-borne transmission of *B. henselae* to cats appears to be very efficient, "epidemiological data do not support efficient transmission from cat to human via the cat flea." --- Infectious Disease News 9(9): 3, 7; SEP 96.

Malaria Genome Project Ready to Roll Malaria, estimated to cause more than 1 million deaths a year,

will be coming under renewed attack by molecular biologists, who have just won support for an international project to sequence the entire genome of the malaria parasite. Scientists attempting to decipher the genetic code of the deadly strain *Plasmodium falciparum* recently reported progress in solving technical issues, which helped win funding.

The largest pledge comes from the U.S. Department of Defense's (DOD's) Military Infectious Disease Research Program. Its director, Colonel William Bancroft, confirms that his office plans to spend \$8 million to sequence *falciparum* over the next 5 years. A second major funder is Britain's Wellcome Trust, although its commitment hasn't been announced yet. Others include the U.S. National Institutes of Health (NIH) (\$1 million) and the U.S. Burroughs Wellcome Fund (\$4 million).

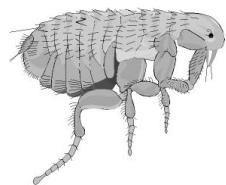
The plan would support sequencing at the Sanger Centre near Cambridge, England and at the Institute for Genomic Research (TIGR) in Gaithersburg, Maryland. Other labs in the United Kingdom, the United States, and Australia will help.

Would-be sequencers of *falciparum* have been frustrated since the 1980s because of the daunting size of its genome (30 million base pairs, more than twice the size of yeast, the largest genome sequenced to date), and because it has proved difficult to clone accurately into the bacterial vectors used in sequencing machines. But earlier this month, scientists from the Sanger Centre and TIGR reported that they are finding ways around these problems. The results were "exciting," according to Naval Medical Research Institute malaria researcher Stephen Hoffman, who says the Sanger team has now sequenced 20,000 bases of the parasite's chromosome 3 (one of 14 chromosomes). And DOD's Bancroft says: "We're optimistic that things are going to start rolling now." NIH's Michael Gottlieb, who organized the meeting, confirms that researchers are optimistic about solving the cloning problem.

The research teams are still working out details of the collaboration, such as when and how to release DNA data. They plan to meet again 6 months from now in Cambridge, England. --- Science, 20 December 96, p. 1999.



Plague Genetics and Fleas -A team of scientists at the Rocky Mountain Laboratories (RML) in Hamilton, Montana, has identified a critical genetic link in the



transmission of the plague bacterium, *Yersinia pestis*, by fleas. In a series of experiments, these investigators determined that three genes in *Y. pestis* are responsible for changing this agent from a harmless, long-

term inhabitant of the flea midgut to one that amasses in and ultimately blocks the foregut. As a result of this obstruction, the flea begins to starve, leading to frenzied blood feeding during which it regurgitates the bacteria and thereby transmits the disease. Though it has long been known that plague transmission depends on bacterial development in the flea foregut, only now are the molecular and genetic mechanisms behind this development being elucidated.

The RML investigators focused on three hemin storage (hms) genes, which together constitute less than 1% of the total genome of *Y. pestis*. To ascertain the role of these genes, the important plague vector *Xenopsylla cheopis* was given blood meals containing normal *Y. pestis* or a mutant form lacking hms genes. After four weeks, only those fleas infected with normal bacteria developed foregut blockage, an indication that hms genes are required for *Y. pestis* to cause blockage. Mutant *Y. pestis* failed to obstruct the foregut but, as will be seen, remained present in the midgut.

To better visualize where plague bacteria locate and develop in the flea gut, series of *X. cheopis* were infected with either of the two forms of *Y. pestis* modified to fluoresce green. A striking difference in the infections caused by the two bacterial varieties was soon seen: in many fleas, mutant bacteria remained in the midgut, but normal bacteria migrated to the foregut, which was eventually blocked. Small clusters of mutant bacteria occasionally were seen on the proventricular spines of the foregut but did not remain there long.

RML scientists are now examining other genes in *Y. pestis* that may be related to infectivity. For example, they have observed that the foregut blockage in fleas breaks down at temperatures above 80°F. They are trying to determine why this occurs and if such temperature changes suppress the products of hms or other genes.----Infectious Disease News 9(10): 22, OCT 96.

Dipstick Diagnosis of Malaria -At this year's Interscience Conference on Antimicrobial Agents and

Chemotherapy, held in New Orleans, Louisiana Atul Humar and colleagues from Canada's Toronto Hospital presented a poster describing a quick and simple dipstick blood test for the diagnosis of *Plasmodium falciparum*, the most dangerous of the four malaria species that infect humans. The diagnosis of malaria is usually made by examination of a patient's blood under a microscope. However, considerable experience and skill are required to accurately identify particular malarial species.

Humar and his associates tested their dipstick method in 151 patients who presented with fevers after returning from the tropics. They then compared these tests with diagnoses by microscopy and polymerase chain reaction (PCR). The dipstick was at least as good as microscopy in detecting *P. falciparum*. Of all patients who had falciparum malaria (as confirmed by PCR), 88% were accurately diagnosed by the dipstick and 83% were accurately diagnosed by microscopy. In a few patients with very low parasitemia, the dipstick test yielded false negatives. Two patients with vivax malaria (*P. vivax*) had false positive results, but this dipstick is not useful for diagnosing malaria due to species other than *P. falciparum*.----Infectious Disease News 9(11): 24, NOV 96.



A Cure for Chagas' Disease? -Chagas' disease, or American trypanosomiasis, which occurs from Mexico to Argentina and currently afflicts some 18 million people, has to date been incurable in its chronic, longer-term stages because available drugs have serious side effects on the nervous system and can therefore only be used to treat newly acquired infections. Recently, however, Julián Urbina, of the Instituto Venezolano de Investigaciones Científicas, and an international team of collaborators have shown that a novel compound code-named D0870 is able to cure both long- and short-term Chagas' disease in mice. There is now hope that this drug will do the same in humans.

D0870 is produced by Zeneca Pharmaceuticals. It is an inhibitor of sterol biosynthesis and, as such, was first identified as an antifungal agent. Remarkably, *Trypanosoma cruzi*, the parasite that causes Chagas' disease, metabolizes steroids in a manner similar to fungi. Earlier in vitro studies showed that D0870 defeat *T. cruzi* by causing the parasite's natural sterols to be replaced by 14 α -methyl sterols. New experimental results have

demonstrated that the compound is able to cure a large percentage of both acute and chronic *T. cruzi* infections in mice, blocking parasite growth and reproduction and, in chronic cases, penetrating parasite-infected cells. Moreover, D0870 is effective against at least six different strains of *T. cruzi*.

This research has laid the foundation for toxicological and pharmacokinetic studies of D0870 as an anti-*T. cruzi* compound. Once these studies are completed, clinical trials may be initiated. Zeneca Pharmaceuticals is already clinically evaluating the efficacy and safety of D0870 as an antifungal agent in candidiasis.----TDR News (51): 3, 8; NOV 96.

Malaria in the Republic of Korea -Most of us do not associate malaria outbreaks with northern climates,



but that is exactly what is happening in the Republic of Korea. Malaria was declared eradicated from the entire peninsula in 1972 following a coordinated program of case detection and vector control, but one case in 1993 was the beginning of a major re-emergence of the disease. 1994 saw 25 cases (including one U.S. soldier), then 107 cases in 1995, and, finally, some 306 cases in 1996 (9 U.S. Army, approximately 50 Korean civilians, and 247 Korean Army). Until this year, there was probably a feeling of hope in the medical community that the problem would "go away," but at this point it is clear to everyone that malaria is a big problem that is going to require active intervention.

All the Korean malaria is due to *Plasmodium vivax*, a parasite that causes periodic fevers and chills at 48-hour intervals. This form of malaria is almost never fatal, but the illness in newly infected people is very debilitating. Chloroquine can be given prophylactically to suppress the blood stages and all symptoms, but the liver stage is only cleared by other drugs, usually primaquine. Without proper treatment, the liver stage may persist for years, causing illness at irregular intervals. The strain of *vivax* in Korea is genetically related to Chinese strains, suggesting a continuous distribution rather than an isolated introduction. Korean authorities feel that this strain usually results in a long delay between infection and illness, explaining why some cases appear in winter and early spring. Although the long delay occurs, it is not at all clear how many of the cases behave this way. If a significant number of cases experience delayed onset of symptoms or mild symptoms during the first attack, then there is a danger of sending infected U.S.

soldiers home. At least two such cases have occurred and there may have been as many as 20 soldiers who acquired malaria in Korea but were not diagnosed until they returned to the United States.

The geographic distribution of cases has been restricted to a narrow band extending along the border with the People's Democratic Republic of Korea (North Korea) from Yongchon (due north of Camp Casey) to Kangwha Island (in the Yellow Sea).

Through 1995, all cases could be related to exposure in the Demilitarized Zone (DMZ) itself, but in 1996

there was evidence for a wider area of transmission. Transmission to U.S. soldiers almost certainly occurred at Warrior Base, a few kilometers from the DMZ,

and in civilian residents of Paju City, at least 15 km from the border. Evidence for establishment of malaria foci in the Republic of Korea was found when the 5th Medical Detachment, Korean Army, and Paju County Public Health Department cooperated on 8 October in obtaining blood samples from 135 residents of Taesong Dong village along the DMZ. Two of the residents had active *vivax* infections at the time of sampling, even though they had not associated their mild illnesses with malaria.

The common human-biting *Anopheles* in the area are *sinensis*, *lesteri*, and *yatsushiroensis* with *sinensis* by far the most abundant. *Anopheles sinensis* was the acknowledged vector on the Korean peninsula during the 1950s and 1960s, though very few specimens were found infected. The literature discusses basic bionomics of this species, but there are wide gaps in our knowledge of its flight range, systematics, and susceptibility to malaria parasites. Last July, the three preventive medicine detachments on the peninsula (5th, 38th, and 154th) joined forces to perform intensive vector sampling in the DMZ. Some work was done on larval distribution, larval treatment with Altosid, and extra light trapping, but the bulk of the effort was dedicated to human landing collections. Teams of four collectors worked two hours on and two hours off, all night for two weeks, changing most the personnel during the middle of the project. Civilian entomologists at the 5th Medical Detachment received specimens daily (or as often as the record rainfall allowed) for identification and preparation. Thanks to the dedicated efforts of about 20 people, major conclusions were reached and a practical report of the findings distributed within a week of completion of the survey. It was found that most *Anopheles* bite after midnight, with a large peak one hour before dawn. As



expected *An. sinensis* was the most abundant species, constituting 97% of the *Anopheles*. This species probably prefers cattle over humans, but there are very few cattle in the DMZ area and *Anopheles sinensis* is a severely pestiferous mosquito there, with a maximum of 300 bites per hour recorded by an unlucky first lieutenant entomologist. About 4000 dried specimens were sent to the Department of Entomology, Walter Reed Army Institute of Research, for ELISA tests of malaria antigen. At the demonstration village of Taesong Dong, located right on the border, one of 361 *Anopheles sinensis* was infected (including one specimen that probably infected one of the 91S collectors), and in Camp Bonifas just south of the DMZ, two of 3489 specimens were infected.

The intensity of interest in the situation increased greatly over Labor Day weekend, when 5 additional U.S. cases were diagnosed. At that point several decisions were reached by the 1st Medical Command. First, some 4000 soldiers who trained at night north of the Imjin River were placed on chemical prophylaxis. Second, an EPICON team was requested from the CHPPM to formulate a long-range plan for handling the threat to U.S. troops in the future. And third, the 5th Medical Detachment was relieved of its other sanitation missions in order to concentrate on monitoring vector populations. This monitoring showed that vector populations had decreased to a negligible level by 23 September, justifying an earlier cessation of chemoprophylaxis than had been planned. They also showed that there was virtually no threat to large troop concentrations at Camps Red Cloud, Casey, and Hovey. The 4th Medical Detachment and the Department of Public Works were able to perform ULV applications late at night at installations north of the Imjin River for a couple of weeks.

For the future, it is hoped that personal protection will be promoted even more, tents will be treated with permethrin, ULV applications will be made late at night, and rice fields surrounding posts will be treated. Establishing the ELISA technique in Korea would make it possible to evaluate risk at installations as the occurrence of malaria spreads. Ironically, it is not easy for a medical detachment to break away from routine administrative and sanitation demands in order to deal with a real-world disease outbreak. During the last two years, previous commanders of the 5th Medical Detachment have successfully raised the level of awareness of the problem as it has developed, and the 3rd Medical Detachment has taken active measures to promote personal protection. The long-term light-trapping program throughout the peninsula yielded valuable

data on risk at other installations and provided insights into the history of vector populations in the malarious area. Cooperation with the preventive medicine consultant, a physician, has been an essential part of whatever progress has been made. This situation is an example of how medical detachment entomologists and military entomologists can successfully work together to execute surveillance and treatment plans. ---- LTC Dan Strickman, Commander, 5th Medical Detachment (Ento), Yong San, Korea.

Entomological Activities at the 5th Medical Detachment - The 5th Medical Detachment



(Entomology) is one of three preventive medicine detachments in Korea and the only one with an entomologist as commander. Although the preventive medicine mission of each detachment is very similar, the 5th's MTOE provides for

entomological equipment. Officers in the detachments, whether ESOs or entomologists, have to act as professional preventive medicine consultants as well as commanders and executive officers. Since each detachment has responsibility for preventive medicine in a geographic area encompassing thousands of troops, the professional consulting role is considerable. During the last year, officers in the 5th Medical Detachment have spent about half their time on consulting and half on administration.

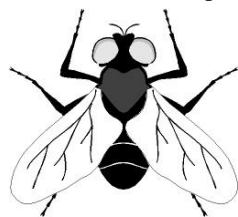
The sanitation mission is generally much more structured than the entomology mission. Regulations closely describe the number of inspections, water samples, etc., that must be performed per month or quarter. These activities are truly preventive, in that they maintain a standard of sanitation that stops food- and water-borne illnesses before they start. Entomology, on the other hand, mostly responds to problems that have already occurred, recommending future responses. There are always more problems than there is time and considerable prioritization is involved.

Most entomological problems that come to the 5th Medical Detachment are not easy to solve (the easy ones have been handled); this is particularly true of the hump-backed flies (Diptera: Phoridae). One building at Camp Yongin, south of Seoul, was infested to the point that people looked like they were constantly saluting indoors to keep the pests away from their faces. The building was unusual in a number of ways, including its slab on grade construction, large size (5 floors), multiple use

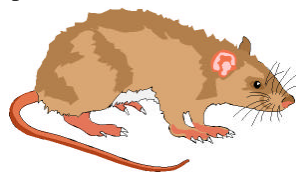
(offices, billets, dining facility, motor pool, etc.), and location at the base of two large embankments. Phorid breeding places include any accumulation of moist organic matter, especially in drains, carcasses, rotten vegetables, etc. Following a couple hours of examination, it was determined that a strange accumulation of jelly-like organic matter in most drains in the building was the major problem, as well as half a dozen more minor sites. The unit went about cleaning all the drains, which decreased the number of flies but did not eliminate them. Another visit revealed more drains, and more cleaning again temporarily reduced the population. Finally, the kitchen crew found a wall void near the dishwashing area that was heavily infested and the problem appeared to be solved.

Plain old *Musca domestica* house flies are a major problem on some installations. Flies are numerous at Camp Casey in the early part of the summer when most of the rain falls. No doubt many of the flies come from off post, but some are home grown. A day spent poking around in out-of-the-way corners of the post revealed 1) illegal chickens kept by civilian workers, 2) accumulation of organic matter at the outfall of the sewage treatment plant, and 3) maggots in a filthy drain within a dining facility. A few recommendations followed by fly exclusion and sanitation were reported to have made a big difference. Many people on post seem to think that flies develop at every trash point, when the fact is that most trash points are far too dry to support development. However, at Camp Humphreys, a contractor was not moving the garbage to the landfill fast enough and a pile of trash 15 x 15 x 3 m was seething with maggots wherever there was organic waste. The contracting monitor needed to watch the situation much more closely.

Rats in Korea should have six legs because they end up requiring a lot of entomological attention. Far to the north though Seoul is (37°N), both Norway rats (*Rattus norvegicus*) and roof rats (*Rattus rattus*) are very numerous. They are so prevalent that housing residents often fail to complain about them and the problem goes on a long time without detection. At one housing area recently, rats finally got so prevalent that people were seeing them during the day, children were playing with dead ones,



of the post revealed 1) illegal chickens kept by civilian



and the rats were a constant presence at the child development center. Comprehensive use of poison baits had been discontinued in 1990 because of fear of poisoning pets. In the meantime, the Department of Public Works had begun to use tamper-proof bait boxes and pets had been banned from the housing area. Reversing the policy against baiting took some coordination, but it was accomplished and a more comprehensive baiting program has begun. The 3rd Medical Detachment has taken the lead and is providing detailed advice on bait station placement while also conducting a class to inform residents.

Powder-post beetles provided a change from public health pests at the volunteer gift shop. Importing wood items from all over Asia, the shop had also imported the beetles. At first it seemed that the problem was restricted to unfinished, natural wood, but then damage was also found in expensive rosewood furniture. The local pest control shop did not have the equipment for tent fumigation, so the gift shop dug into its pockets to hire a contractor, coordinating with the command entomologist. Now the gift shop is fumigating items in MILVANS as they come in and will require a certificate of fumigation from future shipments. It is interesting that Korean furniture dealers are well aware of the problem and either insist on steam- or kiln-treated wood or avoid tropical woods altogether.

These examples are just a sample of entomological problems during the last year at 5th Medical Detachment. We are lucky to have two experienced civilian entomologists who are familiar with the local fauna and run programs in mosquito monitoring, stored products insects and insecticide susceptibility. Every military entomologist cannot know everything about every pest, but it sometimes seems like the world expects exactly that! ---- LTC Dan Strickman, Commander, 5th Medical Detachment (Ento), Yong San, Korea.

NATURAL RESOURCES

Forest Pest Suppression (FPS) Program-

The proposals for FY 1997 FPS projects have been submitted to the United States Forest Service (USFS). This program is entering its eighth year. The USFS has been directed by Congress to assist federal agencies in controlling insect and disease pests. The USFS assists by conducting biological evaluations when requested. If an evaluation determines there is a significant problem, a USFS form can be submitted requesting assistance. Upon approval by the USFS,

funding may be provided to conduct control operations. In June of next year, a package will be mailed to the Service's pest management and natural resource program managers soliciting FPS project proposals for FY 98.---- For further information contact Dr. Egan at DSN 295-7485 or Commercial 301-295-7485.

Brown Tree Snake (BTS) - The BTS

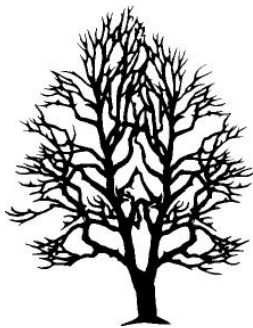


Control Plan was recently sent to the AFPMB. Copies of the plan and the Final Report on the "Survey of the Risk of Brown Tree Snake Dispersal through Mariana

Islands Harbor and Airport Installations" have been distributed to designated DoD program managers. If you are not on the mailing list for BTS publications and would like copies, please check these items on the back page and send in the form.---- For further information contact Dr. Egan at DSN 295-7485 or Commercial 301-295-7485.

Aquatic Nuisance Species Task Force (ANSTF) - The ANSTF met in Newark, CA at the San Francisco Bay National Wildlife Refuge, 13-14 November. The meeting was held to discuss marine invasions of aquatic nuisance plants and animals. San Francisco Bay is estimated to be receiving 1 new invasive species every 28 days. Major issues discussed were the re-authorization of the Aquatic Nuisance Species Prevention and Control Act of 1990 as the National Invasive Species Act of 1996, zebra mussel, ballast water management, and the completed Brown Tree Snake Control Plan.---- For further information contact Dr. Egan at DSN 295-7485 or Commercial 301-295-7485.

Disease Resistant Elms - Scientists at the USDA's Agricultural Research Service and the National Arboretum have come up with two new American elm varieties, Valley Forge and New Harmony, "that can tolerate the deadly Dutch elm disease." These two varieties, plus a third one called Liberty, are being cultivated by the Elm Research Institute in New Hampshire and several universities and other groups, but are not "disease proof"; rather, they are better equipped to fight off



Dutch elm disease. Disease resistant trees should be available at retail nurseries by 1999.----US Forest Service's Short Subjects And Timely Tips, Oct 96pgs. 5-6.

Single Tree Sprayer Designed - A single tree spray system has been designed for use on high value trees. The system consists of piping and a nozzle that are fastened directly to the trunk of the tree. The chemical source is in a tank that is moved by vehicle from tree to tree. The tank is connected to an individual spray system and pumped up the tree to a stationary nozzle mounted above the tree. The system gives good coverage and reduces the amount of chemical used to achieve coverage of high value trees.----US Forest Service's Short Subjects And Timely Tips, Oct 96, pg. 6.

TIB BYTES

DPMIAC Web Crawler is Gathering Information-



We have started a Webcrawler that is being pointed at World Wide Web sites containing information relating to all aspects of pest management. The database will reside on one of our servers and will give our users

access to a searchable database specializing in the area of pest management information on the Internet. Currently, about 30 sites have been visited and indexed. It is a slow process, but we hope to be pretty far along by the end of the year. To visit the site, point your web browser at: <http://134.152.11.8/>---- LCDR Corneil, DPMIAC.

Active Duty Entomology Information on the Web-

We have added a section to our web server that contains information about the active duty entomology programs of each service. The goal of this section is to provide some general information, as well as a place to put news that is of particular interest to active duty entomologists and others interested in becoming active duty entomologists. This section can be found at: <http://www-afpmb.acq.osd.mil/pubs/infopubs.htm> ---- LCDR Corneil, DPMIAC.

TIB BITS

Cat Lovers Clash Over Care of Strays. The following from the December 23, 1996, Washington Times illustrates that even the animal lover groups cannot agree on how best to care for stray cats. In this case the cats are living along the Norfolk, Virginia waterfront. The two groups, People for the Ethical Treatment of Animals (PETA) and the Meower Power League both agree that the cats should be neutered, vaccinated and fed, but they disagree as to their final disposition. PETA wants the cats adopted as pets. The Meower Power League believes the cats should stay on the docks to catch rats because there aren't enough homes for them. At one point the dispute became a physical confrontation as two cat lovers struggled for control of one trapped feline, and police were called. "I support the basic tenets of what PETA is about," said John Newton, a league volunteer and one of the "cat-fight participants." "They've got to get rid of this misconception that the cats are leading wretched, miserable lives. I fail to see the cruel treatment of an animal in this case" PETA, which moved its national headquarters to Norfolk this year, contends the cats are sick and miserable and should be taken off the street. Ingrid Newkirk, a PETA founder, said the volunteer league is moving too slowly. She said PETA trapped two adult cats that had feline leukemia and two kittens that were anemic and had parasites. All four were euthanized. She also said some cats have been hit by cars and have injured their paws on broken glass. PETA doesn't send the cats in traps to local shelters, where they would probably be euthanized, Miss Newkirk said. Instead, they are sent to heated barns owned by wealthy PETA members. But she acknowledged, "We're a bit full at the moment." Cats in Norfolk's waterfront industrial areas live in warehouses, under train cars and around wooden pallets. Meower Power organizer Cynthia Moose said the cats provide free rodent control. "This place would be overrun with rats if they didn't have cats over here," she said. "These animals are not abused and they're not neglected." League members spend their own money to get shots for the cats and feed them. PETA contends the cats need lives as pets, not urban wildlife. "This weekend, when we have arctic conditions, try getting out of bed at 6:30 and come down and sit at the warehouse and wait for your breakfast and ask yourself if you wouldn't rather be inside in the warm with somebody who loves you," Miss Newkirk said. No charges resulted from altercation.

PUBLICATIONS OF INTEREST

Wood Preservation - "Selection and Use of Preservative-Treated Wood," publication 72999 of the Forest Products Society, 2801 Marshall Court, Madison, WI 53705-2295, 104pp \$24.95. The first thing the authors mention is that portions of the material and photographs were excerpted from the Navy Document "Wood Protection," NAVFAC MO-312, May 1990.



The publication is organized into twelve easy-to-read chapters as follows:

1. Introduction; 2. Wood as a Construction Material; 3. Biological Deterioration of Wood; 4. Protection of Wood; 5. Types of Preservatives; 6. Preservative-Treatment Processes; 7. Standards, Quality Assurance, and Specifications; 8. Post-Construction Inspection and Remedial Treatment; 9. Specific Applications for Treated Wood; 10. Finishing Treated Wood; 11. Safety and Environmental Issues; 12. Sources of Information, References and Additional Information.

The book contains many useful tables, maps, line drawings, and photographs that assess the risk from biological deterioration in different parts of the country. The style is not too technical and is designed



to aid the non-expert reader in understanding how to select and care for wood products. I recommend this book as an addition to your wood protection library. The NAVFAC MO-312 series should be the backbone of your library,

the information in these manuals, while becoming dated, is still excellent and very helpful.----PetEgan.

The Nature Conservancy (TNC) has published "America's Least Wanted: Alien Species Invasions of the U.S. Ecosystems" - This publication gives a brief overview of the problems caused by non-native plants and animals. Twelve pest species, the dirty dozen, are highlighted: zebra mussel, purple loosestrife, flathead catfish, tamarisk, rosy wolfsnail, leafy spurge, green crab, hydrilla, balsam wooly adelgid, miconia, chinese tallow, and brown tree snake. Many readers will recognize these names and some may actually manage programs to control these pests.

This problem with non-native species is sometimes characterized as biological pollution, and

the field of study is often referred to as invasion biology. These terms may be unfamiliar to some readers but the problems caused by these pests are increasing. World trade moves pests by air and ship. Ship's ballast water dumped in our ports has increased the risk of invasion as our harbors have become less polluted and ship transit times have lessened, thus allowing invasive marine species to survive.

The AFPMB is involved in efforts to control the brown tree snake and is working with 16 other federal agencies to develop strategies and programs to control non-native invasive plants. If anyone would like to obtain a copy of this publication check it on the back page and send in the form. You can also obtain this publication by writing TNC, 1815 North Lynn Street, Arlington, VA 22209 or download from TNC home page <http://www.tnc.org/science/library>.----Pete Egan.

The Keystone National Policy Dialogue on Ecosystem Management - "The Report gleans, from the efforts of many people in many places struggling to solve problems in different ways, the elements most likely to contribute to the resolution of conflict in ways that best advance ecological, economic, and social objectives. Ecosystem management, the group concluded, is neither a panacea nor a magic solution to environmental issues, but it can be a significant process capable of sometimes dramatic results that accommodate disparate values and interests."----From the introduction.----Pete Egan.

Field Guide Available - A field guide to common insect pests of urban trees in the northeast is available from the Vermont Department of Forests, Parks and Recreation. The guide is \$15.00, or \$12.00 per copy for orders of 20 or more. Contact Tess Greaves (802)-241-3678. ----US Forest Service's Short Subjects And Timely Tips, Oct 96, pg. 8.

Publications Available From the National Biological Control Institute - For a list of free publications, videos, and posters on biological control contact: National Biological Control Institute, U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Office of the Administrator, 4700 River Road, Unit 5, Riverdale, MD 20737-1229, Telephone (301) 734-4329, FAX (301) 734-7823, or <http://www.aphis.usda.gov/nbci/nbci.html>.----US Forest Service's Short Subjects And Timely Tips, Oct 96, pg 8.

Handbook for Habitat Conservation Planning and

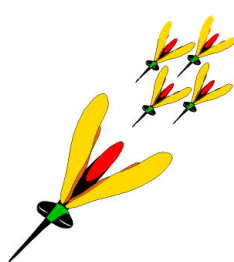
Incidental Take Permitting Process - This final guidance document provides internal guidance for conducting the incidental take permit program under section 10(a)(1)(B0) of the Endangered Species Act of 1973, as amended. The purpose of the guidance is to promote efficiency and nationwide consistency within and between the Services (Fish and Wildlife Service and National Marine Fisheries Service). Although intended primarily as internal agency guidance, this Handbook is available for public evaluation and use, as appropriate.

For a copy please contact the Division of Endangered Species, U.S. Fish and Wildlife Service, 4401 North Fairfax Drive, Room 452, Arlington, VA 22203.----Pete Egan.

1997 Directory of Least-Toxic Pest Control

Products - This directory is found in the November/December 1996 IPM Practitioner published by the Bio-Integral Resources Center, PO Box 7414, Berkeley, CA 94707, (510) 524-2567. Individuals interested in developing or expanding IPM programs will find the IPM Practitioner and its annual directory to be very helpful resources. ----PetEgan.

Operation Manual on the Application of Insecticides for the Control of the Mosquito Vectors of Malaria and Other Diseases



Public health specialists have long felt the need for a comprehensive operations manual on the cost-effective and safe use of insecticides for control of disease. In accordance with requests received from several member states and the World Declaration on Malaria Control recognizing the use of insecticides as one of the most important and effective tools for applications of global malaria control, the Division of Control of Tropical Diseases (CTD) of the World Health Organization has prepared this manual. The manual which covers all elements and factors having impact on the use and application of insecticides in mosquito control is now available as document WHO/CTD/VBC/96.1000. Since the number of manuals published is limited it will be distributed on request from member states, regional offices and recognized institutions involved in vector control. Requests must be addressed to:

Division of CTD
WHO/OMS
INF.DOC L.69

1211 Geneva 27
Switzerland

---- COL Phil Lawyer, DPMIAC

SELECTED MEETINGS

FEBRUARY 7-14. 38th Meeting, Navy Occupational Health and Preventive Medicine Workshop - Virginia Beach, VA. Carol Boston, Navy Environmental Health Center, 2510 Walmer Ave., Norfolk, VA 23513-2617, Tel: (757) 363-5508, DSN Prefix 864.

MARCH 18-21. 154th Meeting, Armed Forces Pest Management Board- Washington, DC. Col Bob McKenna, AFPMB, Forest Glen Sect., WRAMC, Washington, DC 203075001, Tel: (301) 2957476, Fax: 7473, DSN Prefix 295, e-mail: mckennrj@acq.osd.mil

MARCH 23-27. American Mosquito Control Association Annual Meeting - Salt Lake City, UT. Tel: (800) 453-9450.

APRIL 6-8. Fourth International Symposium on Ectoparasites of Pets - Riverside, CA. DrN.C. Hinkle, Department of Entomology, University of California, Riverside, CA 92521, Tel: (909) 787-2422, e-mail: nhinkle@citrus.ucr.edu

MAY 5-9. First World Congress on Leishmaniasis - Istanbul, Turkey. Organized by the Turkish Society of Parasitology in collaboration with the Gulhane Military Medical Academy, Department of Microbiology & Clinical Microbiology and Ege University Medical Faculty, Department of Parasitology under the Auspices of the World Federation of Parasitologists. Corresponding addresses: Worldleish 1, Department of Parasitology, Ege University Medical Faculty Bornova, Izmir, 35100, Turkey or Turkish Society for Parasitology, P.K:81, Bornova, Izmir, 35042, Turkey; Phone: +90 (232) 339-8290; Fax: +90 (232) 388-1347; E-mail: parasite@tipfak.ege.edu.tr; Home page: <http://medicine.ege.edu.tr/parasitology>

MAY 12-16. Current Concepts in Environmental and Operational Medicine - Sheraton Tara Hotel, Framingham, Massachusetts. Sponsored by the U. S. Army Research Institute of Environmental Medicine. Point of Contact: LTC Bob Burr rburr@natick-cmail.army.mil

JULY 15-18. 155th Meeting, Armed Forces Pest

Management Board- Washington, DC. Col Bob McKenna, AFPMB, Forest Glen Sect., WRAMC, Washington, DC 203075001, Tel: (301) 2957476, Fax: 7473, DSN Prefix 295, e-mail: mckennrj@acq.osd.mil

AUGUST 18-22. Second Global Meet on Parasitic Diseases with a Focus on Malaria -Hyderabad, India. Organized by the Indian Society of Parasitology in celebration of the 100th anniversary of Sir Ronald Ross's discovery of the malarial parasite. Corresponding address: Dr. V. P. Sharma, President, Indian Society of Parasitology and Director Malaria Research Centre, 20, Madhuban, Vikas Marg, Delhi -110 092, India; Phone: +91-11-224-7983 or 224 3006; Home: +91-11-688-5195; Fax: +91-11-221-5086 or 723-4234; E-mail: Ross@icmrren.nic.in



OCTOBER 19-24 Second International Congress of Vector Ecology. The Society for Vector Ecology is sponsoring the Second International Congress of Vector Ecology in Orlando, Florida. The Congress will be held at the Holiday Inn International Drive Resort. For further information and registration materials contact Gilbert L. Challet, Secretary-Treasurer, P.O. Box 87, Santa Ana, CA 92702, USA Tel: (714) 971-2421, Ext. 148, Fax: (714) 971-3940.

OCTOBER 19-25 Pest Management 97, Sponsored by the National Pest Control Association - Minneapolis, MN. NPCA Meetings Department, 8100 Oak Street, Dunn Loring, VA 22027, Tel: (800) 678-6722 or (703) 573-8330.

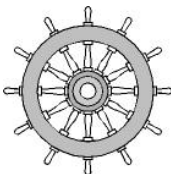
NOVEMBER 18-21 156th Meeting, Armed Forces Pest Management Board- Washington, DC. Col Bob McKenna, AFPMB, Forest Glen Sect., WRAMC, Washington, DC 203075001, Tel: (301) 2957476, Fax: 7473, DSN Prefix 295, e-mail: mckennrj@acq.osd.mil

DECEMBER 13-18 Entomological Society of America Annual Meeting - Nashville, TN. Tel: (301) 731-4535, Fax: 4538, e-mail: meet@entsoc.org Information is also available on the World Wide Web: <http://www.entsoc.org/>

COURSES FOR DoD PEST MANAGEMENT PERSONNEL

If you see any information that needs to be corrected or

updated, please contact LCDR Corneil, who can be reached at Tel: (301) 295-7479, DSN Prefix 295 or e-mail: cornelja@acq.osd.mil



ARMY SPONSORED COURSES

1. For information on the following courses, contact SSG Sutton, Academy of Health Sciences, U.S. Army, ATTN: MCCS-HPM, Fort Sam Houston, TX 78234-6100, Tel: (210) 221-5270/4278, DSN Prefix 471. Classes are conducted at Fort Sam Houston, TX.

Pest Management Certification Course (6H-F12/322-F12):

6-17 JAN 97 (plant pest and vegetation management only)

24 MAR - 11 APR 97

2-20 JUN 97

4-22 AUG 97

Recertification (6H-F13/322-F13):

27-31 JAN 97

24-28 FEB 97

21-25 APR 97

25-29 AUG 97



2. For information on courses in Germany, contact MAJ Tom Logan, HQ, USACHPPM-EUR, CMR 402, Box 137, APO AE 09180, Tel: 496371-86-8540/44, DSN: 486-8540/44. Classes are conducted at the USACHPPM-EUR, Landstuhl, Germany.

3. For information on courses taught at the Environmental Training Center, contact Ms. Gail Boeff, ATTN: ATZRBT, Fort Sill, OK 73503-5100, Tel: (405) 351-2111, Fax: (405) 351-5722, DSN Prefix 639. The Environmental Training Center at Fort Sill, OK conducts a variety of environmental, natural resources and occupational health courses.

NAVY SPONSORED COURSES

1. For information on the following courses, contact Mr. F. De Masi, NDVECC, Naval Air Station Jacksonville, Box 43, Jacksonville, FL 32212, Tel: (904) 772-2424, Fax: (904) 7790107, DSN Prefix 942. Classes are conducted at the Disease Vector Ecology and Control Center, NAS Jacksonville, Jacksonville, FL.

Medical Entomology and Pest Management Technology (B-322-1050):

3-14 FEB 97
2-13 JUN 97
14-25 JUL 97

Pesticide Applicator Training (Core) (B322-1070), Instruction for Initial Certification:

3-10 MAR 97

8-15 SEP 97

Plant Pest and Vegetation Management (B322-1071), Initial Certification for Categories 2, 3, 5 & 6:

11-14 MAR 97

16-19 SEP 97

Arthropod and Vertebrate Pest Management (B-322-1072), Initial Certification for Categories 7 & 8:

17-26 MAR 97

22 SEP - 1 OCT 97

Recertification Course (B3221074), Category 8:

8-9 APR 97

4-5 NOV 97

Operational Entomology Training (B322-1077), designed for A/D & Reserve PMTs, EHOs, Entomologists, Epidemiologists & others assigned to PM units:

5-16 MAY 97

20-31 OCT 97



2. For information on the following courses, contact HM1 Clayton, NDVECC, 19950 Seventh Ave., NE, Ste 201, Poulsbo, WA 98370-7405, Tel: (360) 315-4450, Fax: 4455, DSN Prefix 322. Classes are conducted at the Disease Vector Ecology and Control Center, Bangor, WA.

Pest Management (Core): Basic Pest Management Technology (B322-1070), designed for military and civilian personnel engaged in pest control operations at military activities. Includes Plant and Vegetation Management (B-322-1071) and Arthropod and Vertebrate Pest Management (B322-1072).

27 JAN - 21 FEB 97

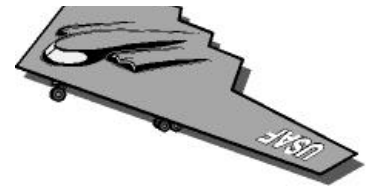
Medical Entomology and Pest Management Technology for Preventive Medicine Technicians (B-322-0017):

17 MAR - 11 APR 97

21 JUL - 15 AUG 97

6 NOV - 5 DEC 97

Medical Entomology and Pest Management



Technology (Reserve Training) (B-322-1050):
16-27 JUN 97
8-19 SEP 97

Recertification Course (B322-1074), Category 8:
4-7 MAR 97
20-23 MAY 97
26-29 AUG 97
21-24 OCT 97

Operational Entomology Training (B322-1077),
designed for A/D & Reserve PMTs, EHOs,
Entomologists, Epidemiologists & others assigned to
PM units:
21 APR - 2 MAY 97 (at Okinawa, Japan)

Shipboard Pest Management (B322-1075):
NDVECC(B)
15 JAN 97
26 FEB 97
19 MAR 97
9 APR 97
7 MAY 97
4 JUN 97
9 JUL 97
20 AUG 97
24 SEP 97
29 OCT 97
19 NOV 97
10 DEC 97

AIR FORCE SPONSORED COURSES

1. For information on courses at Sheppard AFB, contact the Programs Division, 2AF/DOPKeesler AFB, MS 39534-5000, DSN: 597-1336. For information on course content, refer to AFCAT 36-2223, USAF Formal Schools or contact: Mr. Dale Hess, 366 TS/TSIM (Training Squadron/Training Squadron, Instructional Mechanical), 727 Missile Road, Sheppard AFB, TX 76311-2254, DSN: 736-5790, Fax: 3345. Classes are conducted at Sheppard AFB, TX.

2. For information on the following course, contact Maj Terry Carpenter, USAF School of Aerospace Medicine/EH, Brooks AFB, TX 78235-5123, Tel: (210) 536-2058/59, DSN Prefix 240.

Operational Entomology Course (OEC) -
#B30ZY43M3-000 is a two-week training course that includes vector bionomics and vector-borne disease profiles, surveillance and control of vectors and vector-borne diseases, and information, intelligence, and

perspectives on developing country operations during exercises, hostilities, and natural disasters. Academic instruction, practical exercises and field experiences simulate actual vector-borne disease surveillance and control situations. The course is designed to provide training for the following Air Force specialties and DoD personnel: public health officers (43H1/3); public health apprentices (4E031, E-2 and above with completion of 5-level CDC and the recommendation of your supervisor), journeymen (4E051), craftsmen (4E071), or superintendents (4E091); medical entomologists (43M1/3); flight surgeons (48A1/3 or 48P1/3); pest management apprentices (3E433, E-2 and above with completion of 5-level CDC and the recommendation of your supervisor), journeymen (3E453), craftsmen (3E473), or superintendents (3E490 with a prior AFSC 3E433, 3E453, and 3E473), or equivalent civilian pest management personnel; and other military and civilian public health and pest management personnel with the consent of the faculty. Quotas are obtained through the Unit or MAJCOM Training Managers. Army and Navy personnel may contact USAFSAM/EH to request attendance in OEC and are admitted as slots become available.

24 FEB-7 MAR 97
12-23 MAY 97
14-25 JUL 97
18-29 AUG 97
8-19 SEP 97

3. For information on the following course, contact Dr. Terry L. Biery, 757 AS/DOSE, YARS, Vienna, OH 44473-5000, Tel: (330) 392-1111/1178, DSN Prefix 346.

Aerial Application of Pesticides (Certification) -
#AAP-001 is a one-week course that addresses the tenets and methodologies for aerial application of pesticides, with an emphasis on operational aspects and military applications. The course includes general principles, legal aspects, contracts, map types and preparation, spray system calibrations, aerial spray math, DoD spray systems, meteorological effects, occupational health and safety, operations and mission support, disease control, pilot's view, private applicator's view, environmental aspects, computer modeling, swath and droplet characterization, pesticide monitoring, public relations, contingency wartime usage, spill prevention and containment, and other pertinent operational issues involving the use of aerial spray. The course features guest lecturers from the U.S. Army, U.S. Navy, U.S. Department of Agriculture, private applicator firms, and other

government agencies.

FEDERAL REGISTER

VOL 61 No. 191-212 (1-31 October 1996)

2-51447-50 Environmental Protection Agency (EPA) - Action - Notice - Notice of Receipt of Requests to Voluntarily Cancel Certain Pesticide Registrations.

4-51878-79 Fish and Wildlife Service, Interior (FWS) - Action - Proposed Rule, Reopening of Comment Period - Endangered and Threatened Wildlife and Plants (ETWP); Reopening of Comment Period on Proposed Threatened Status for the Guajon, Puerto Rico.

4-52053-54 Office of the Secretary, Interior - Notice of Availability of Final Environmental Impact Statement (EIS) for Water Rights Acquisitions for the Lahontan Valley Wetlands, Churchill Valley, Nevada.

7-52370-84 FWS - Action - Final Rule - ETWP; Determination of Endangered or Threatened Status for Four Southern Maritime Chaparral Plant Taxa from Coastal Southern California and Northwestern Baja California, Mexico.

7-52402-4 FWS - Action - Proposed Rule; Withdrawal - ETWP; Withdrawal of the Proposed Rule to List the Plants *Dudleya biockmaniae* ssp. *brevifolia* (short-leaved dudleya) as Endangered, and *Corethrogyne filaginifolia* var. *iliniifolia* (Del Mar sand-aster) as Threatened.

10-53070-89 FWS - Action - Final Rule - ETWP; Determination of Endangered or Threatened Status for Nineteen Plant Species from the Island of Kauai, Hawaii.

10 53089-108 FWS - Action - Final Rule - ETWP; Determination of Endangered Status for Twenty-five Plants From the Island of Oahu, Hawaii.

10 53108-124 FWS - Action - Final Rule - ETWP; Determination of Endangered or Threatened Status for Fourteen Plant Taxa from the Hawaiian Islands.

10 53124-30 FWS - Action - Final Rule - ETWP; Endangered or Threatened Status for the Plant *Delissea undulata* (No Common Name).

10 53130-37 FWS - Action - Final Rule - ETWP; Determination of Endangered Status for Three Plant Species (*Cyanea dunbarii*, *Lysimachia maxima*, and *Schiedea sarmentosa*) from the Island of Molokai, Hawaii.

10 53137-53 FWS - Action - Final Rule - ETWP; Determination Endangered Status for Thirteen Plants from the Island of Hawaii, State of Hawaii.

10 53186-87 FWS - Action - Proposed Rule; Notice of Opening of Comment Period - ETWP; Reopening of Comment Period on Proposed Endangered Status in Arizona and Threatened Status in Texas for the Cactus Ferruginous Pygmy-Owl.

15-53601-03 Animal and Plant Health Inspection Service, (USDA) - Action - Direct Final Rule - Imported Fire Ant; Approved Treatments.

16-54044-60 FWS - Action - Final Rule - ETWP; Establishment of a Nonessential Experimental Population of California Condors in Northern Arizona.

18 54346-58 FWS - Action - Final Rule - ETWP; Determination of Endangered Status for Four Plants and Threatened Status for One Plant from the Central Sierran Foothills of California.

21 54674-75 FWS - Action - Notice of Document Availability - Notice of Availability of the Bitterroot Ecosystem Recovery Plan Chapter for the Grizzly Bear Recovery Plan.

29-55774-78 National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce - Action - Final Rule - Fisheries of the Northeastern United States; Northeast Multispecies Fishery; Framework Adjustment 19.

31-56138-49 NMFS, NOAA, Commerce - Action - Final Rule - Endangered and Threatened Species; Threatened Status for Central California Coast Coho Salmon Evolutionarily Significant Unit (ESU).

federal register

31-56211-13 NMFS, NOAA, Commerce - Action - Notice of Extension of Final Determination - Endangered and Threatened Species; Notice of Six-Month Extension on the Final Determination on whether to List the Oregon Coast and Southern Oregon/Northern California Evolutionarily Significant Units (ESUs) of Coho Salmon.

29-63132-236- EPA - Action - Semiannual Regulatory Agenda.

VOL 61 No. 213-231 (1-30 November 1996)

1-56403-04 APHIS - Action - Final Rule - Japanese Beetle; Domestic Quarantine and Regulations.

1-56501-02 FWS - Action - Proposed Rule, Notice of Reopening of Comment Period - ETWP; Notice of Reopening of Comment Period on Proposed Endangered Status for the Alameda Whipsnake, the Callippe Silverspot Butterfly, and the Behren's Silverspot Butterfly.

6-57416-19 EPA - Action - Notice - Notice of Receipt of Requests to Voluntarily Cancel Certain Pesticide Registrations.

6-57419-20 EPA - Action - Notice - Notice of Receipt of Requests for Amendments to Delete Uses in Cancel Certain Pesticide Registrations.

12-57987 APHIS - Action - Affirmation of Interim Rule as Final Rule - Mexican Fruit Fly Regulations; Removal of Regulated Area.

12-58084 FWS - Action - Notice of Availability; Extension of Comment Period - Availability of a Draft Environmental Assessment on Permits for Control of Injurious Canada Geese and Request for Comments on Potential Regulations.

20-59028-29 FWS - Action - Final Rule - ETWP; Listing of the Central California Coast Coho Salmon as Threatened in California.

25-59889 FWS - Action - Notice of Document Availability, Public Comment Period, and Public Hearing - Notice of Availability of the Draft Conservation Agreement for the Coral Pink Sand Dunes Tiger Beetle for Review and Comment.

29-62222-62336- Office of the Secretary, USDA - Action - Semiannual Regulatory Agenda.

29-62602-62692- Office of the Solicitor, Interior - Action - Semiannual Regulatory Agenda.

2-63832 National Guard Bureau, Department of the Army - Action - Notice of Availability (NOA) - Draft Environmental Impact Statement (DEIS) for the Massachusetts Military Reservation (MMR), Cape Cod, Massachusetts; Proposed Expansion.

2-63854-57 National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce - Action - Notice of Document Availability - Notice of Availability of Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process.

3-64071-72 Department of the Navy, DoD - Action - Notice of Intent to Prepare an Environmental Impact Statement and to Open Scoping for Developing Home Port Facilities for Three NIMITZ Class Nuclear-Powered Aircraft Carriers in Support of the United States Pacific Fleet.

3-64083-84 Environmental Protection Agency (EPA) - Action - Notice - Notice of Receipt of Requests for Amendments to Delete Uses in Certain Pesticide Registrations.

DIGEST OF H.R. 1627, THE FOOD QUALITY PROTECTION ACT OF 1996

The following is a digest of the Food Quality Protection Act of 1996, written by James Wright. It provides a good synopsis of the Act as it pertains to pest control.

H.R. 1627

Food Quality Protection Act of 1996

TABLE OF CONTENTS:

- Title I: Suspension-Applicators
- Subtitle A: Suspension
- Subtitle B: Training for Maintenance Applicators and Service Technicians
- Title II: Minor Use Crop Protection, Antimicrobial Pesticide Registration Reform, and Public Health Pesticides
- Subtitle A: Minor Use Crop Protection
- Subtitle B: Antimicrobial Pesticide Registration Reform
- Subtitle C: Public Health Pesticides
- Subtitle D: Expedited Registration of Reduced Risk Pesticides
- Title III: Data Collection Activities to Assure the Health of Infants and Children and Other Measures
- Title IV: Amendments to the Federal Food, Drug, and Cosmetic Act
- Title V: Fees
- Title VI: Indian Tribes

DIGEST:

Food Quality Protection Act of 1996 **Title I: Suspension- Applicators - Subtitle A: Suspension** Amends the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to allow the Administrator of the Environmental Protection Agency to issue an emergency order suspending a pesticide registration before issuing a notice of intent to cancel a registration or change its classification if the latter notice is issued within 90 days of issuance of the

suspension order. Provides that if a cancellation notice is not issued within such time period, the emergency order shall expire.

(Sec. 103) Revises procedures for registration of pesticides first registered before November 1, 1984, to require the Administrator to reassess tolerances and exemptions issued under the Federal Food, Drug, and Cosmetic Act (FDCA), considering available information and reasonable assumptions regarding levels of consumer exposure to pesticide residues in food and the variability of sensitivities of major identifiable groups, including infants and children.

(Sec. 104) Establishes a Science Review Board to assist the scientific advisory panel that comments on decisions of the Administrator to cancel a pesticide's registration or change its classification and on regulations issued under FIFRA.

(Sec. 105) Provides a definition of "nitrogen stabilizer." Exempts from certain FIFRA requirements any mixture or other combination of one or more registered nitrogen stabilizers and one or more fertilizer products if the mixture or combination: (1) meets labeling requirements for the nitrogen stabilizer; (2) is mixed or combined in accordance with its labeling; and (3) contains no active ingredient other than the nitrogen stabilizer.

(Sec. 106) Eliminates the authority of political subdivisions to regulate pesticides or devices (excluding local governments and political subdivisions from the definition of "State") and specifies that States shall not be prohibited from enforcing laws or regulations applicable to local governments regarding the sale or use of federally registered pesticides or devices.

(Sec. 107) Eliminates the requirement of mandatory cancellation of a pesticide's registration after five years and revises the provision permitting continued sale and use of existing stocks of a suspended ~~cancelled~~ (under current law, only cancelled) pesticides. Removes the requirement that the Administrator determine that such use will not have unreasonable adverse environmental effects. Establishes a requirement of periodic review of pesticide registration, with a goal of review every 15 years.

Subtitle B: Training for Maintenance Applicators and Service Technicians Allows States to establish minimum requirements for training of maintenance applicators and service technicians and defines such terms.

Title II: Minor Use Crop Protection, Antimicrobial Pesticide Registration Reform, and Public Health Pesticides - Subtitle A: Minor Use Crop Protection- Amends FIFRA to define "minor use" as the use of a pesticide on an animal or commercial agricultural crop or site or for public health protection where: (1) the total U.S. acreage for the crop is less than 300,000 acres; or (2) the Administrator determines that the use does not provide sufficient economic incentive to support the initial or continuing registration of a pesticide for such use and there are insufficient alternatives available for the use, the alternatives pose greater environmental or health risks, or the pesticide plays or will play a significant part in managing pest resistance or in an integrated pest management program.

Extends the period of exclusive data use for data submitted to support original registration applications for pesticides for an additional year for each three minor uses registered after this Act's enactment and within seven years of commencement of the exclusive use period, up to a total of three additional years for all minor uses registered by the Administrator if the Administrator determines that: (1) there are insufficient alternatives available for the use or the alternatives pose greater environmental or health risks; or (2) the pesticide plays or will play a significant part in managing pest resistance or in an integrated pest management program. States requirements regarding protection of data submitted to support a new minor use after the lapse of the original exclusive use period.

Requires the Administrator, upon the request of a registrant, to extend the deadline for the production of residue chemistry data required solely to support a minor use subject to specified conditions. Applies the same extension

conditions to data for reregistrations. Authorizes the Administrator to modify or revoke such extensions if the use may cause unreasonable adverse environmental effects.

Permits the Administrator, in handling the registration of a pesticide for a minor use, to waive applicable data requirements if the absence of data will not prevent the Administrator from determining the risk presented by the pesticide and that the risk would not have an adverse environmental effect.

Provides for expedited review (within 12 months of submission) of applications to support minor use pesticide registrations.

Sets forth conditions for extensions of registrations for unsupported minor uses.

Provides a procedure for meeting data requirements where a registrant has voluntarily cancelled a registration and another application is pending for registration of a pesticide that is for a minor use and is identical or substantially similar to, or for an identical or substantially similar use as, the cancelled pesticide.

Directs the Administrator to establish a minor use program. Requires a report by the Office of Pesticide Programs regarding progress made on minor use pesticide registration.

Directs the Secretary of Agriculture to establish a Department of Agriculture minor use program and a data development grant program, to be funded by a Minor Use Pesticide Data Revolving Fund established in the Treasury.

Authorizes appropriations.

Subtitle B: Antimicrobial Pesticide Registration Reform- Amends FIFRA to exclude liquid chemical sterilant products for use on a critical or semi-critical device, as defined in FDCA, from the definition of "pesticide."

(Sec. 222) Directs the Administrator to: (1) coordinate data requirements, test protocols, timetables, and standards of review and reduce burdens and redundancy caused to the registrant, whenever data in support of a pesticide registration is requested by one or more State or Federal agencies; and (2) develop a process to identify and assist in alleviating future disparities between Federal and State data requirements.

(Sec. 223) Provides, with respect to the labeling of an antimicrobial pesticide product, that: (1) a registrant may modify the labeling to include relevant information on the product's efficacy, composition, or container or other characteristics unrelated to a pesticidal claim or activity; (2) such labeling shall not be false or misleading or in conflict with statements required as a condition of registration and shall be substantiated upon request; (3) modifications shall be subject to a notification and approval process; and (4) different cautionary statements for use dilutions may be included in the labeling upon approval of the Administrator.

(Sec. 224) Directs the Administrator to identify and evaluate changes to the process for registration of antimicrobial pesticides that will reduce current time periods for review. Details rulemaking requirements regarding the review of such pesticides. Requires an annual report to the Congress on measures taken to effect such changes.

(Sec. 225) Exempts from applicability of certain FIFRA storage, disposal, transportation, and container requirements household, industrial, or institutional antimicrobial products that are not subject to regulation under the Solid Waste Disposal Act, unless the Administrator determines that their application is necessary to prevent an unreasonable adverse effect on the environment.

Subtitle C: Public Health Pesticides- Amends FIFRA to direct the Administrator to consider the risks and benefits

of public health pesticides separately from the risks and benefits of other pesticides. Requires the Administrator, in weighing any regulatory action concerning a public health pesticide, to weigh any risks of the pesticide against the health risks to be controlled by the pesticide.

Defines: (1) a "public health pesticide" as a minor use pesticide registered for use and used predominantly in public health programs for vector control or other health protection uses; and (2) "vector" as any animal capable of transmitting the causative agent of human disease or of producing human discomfort or injury.

(Sec. 232) Exempts from reregistration fees public health pesticides regarding which the Administrator determines that the economic return to the registrant from sales does not support the pesticide's registration ~~or~~ reregistration.

Provides for expedited processing and review of pesticide applications that propose the initial or amended registration of an end use pesticide that, if registered as proposed, would be used as a public health pesticide.

(Sec. 233) Provides for comment by the Secretary of Health and Human Services on registrations of public health pesticides proposed for cancellation.

(Sec. 236) Directs the Administrator to identify pests of significant public health importance and to implement programs to improve and facilitate the safe use of methods to combat such pests.

(Sec. 237) Requires the Administrator to consult with the Secretary prior to taking final action to suspend or cancel a registration. Directs the Administrator to determine whether the potential benefits of continued use of a pesticide for public health purposes are of such significance as to warrant studies to support continued registration. Requires the Secretary to make arrangements for the conduct of studies and submission of data, including congressional notification. Authorizes appropriations.

Subtitle D: Expedited Registration of Reduced Risk Pesticides Directs the Administrator to develop procedures for expedited review of applications for registration, or amendments thereof, of pesticides whose use may reasonably be expected to: (1) reduce the risks of pesticides to human health or non-target organisms; (2) reduce potential for water or other resource contamination; or (3) further integrated pest management strategies.

Title III: Data Collection Activities to Assure the Health of Infants and Children and Other Measures

Directs the Secretary of Agriculture, in consultation with the Administrator and the Secretary of Health and Human

Services, to coordinate the development and implementation of survey procedures to ensure collection of adequate data on food consumption patterns of infants and children. Requires residue data collection activities of the Department of Agriculture to provide for the improved surveillance of pesticide residues, including increased sampling of foods most likely consumed by infants and children.

(Sec. 302) Directs the Secretary of Agriculture to: (1) collect pesticide use data of statewide or regional significance for all the major crops and crops of dietary significance; and (2) in cooperation with the Administrator, implement research, demonstration, and education programs to support adoption of integrated pest management. Requires Federal agencies to use and promote integrated pest management techniques.

(Sec. 304) Revises the definition of "unreasonable adverse effects on the environment" to include human dietary risk from pesticide residues inconsistent with the standard determined adequate to protect the public health under FDCA.

(Sec. 305) Directs the Secretary to submit to the Congress an evaluation of the status of, and potential improvements in, Federal pesticide use information gathering activities.

Title IV: Amendments to the Federal Food, Drug, and Cosmetic Act Amends FDCA to redefine "pesticide chemical," subject to exception, as any substance that is a pesticide, or any active ingredient thereof, within the meaning of FIFRA. Defines "pesticide chemical residue," subject to exception, as a residue in or on a raw agricultural commodity or processed food of a pesticide chemical or any other added substance present as a result of a pesticide chemical's metabolism or other degradation.

(Sec. 404) Deems a processed food not to be adulterated, within the meaning of FDCA, if there are present pesticide chemical residues at tolerance levels not considered unsafe. (Current law treats only raw agricultural commodities in this manner.)

(Sec. 405) Sets forth requirements relating to tolerances and exemptions from tolerances for pesticide chemical residues in food, including residues of degradation products, which allow the presence in processed food at the tolerance applicable to the raw agricultural commodity from which the processed food is made. Prohibits establishment of a tolerance that is more stringent than a level the Administrator determines is adequate to protect the public health (i.e., if the dietary risk posed by such level of residues is negligible). Allows a greater than negligible dietary risk if: (1) use protects from greater adverse health effects to humans or the environment; (2) use avoids greater risks from another pesticide; or (3) the unavailability of the pesticide would reduce the availability of an adequate, wholesome, and economical domestic supply of the food.

Prohibits issuance of a final rule that revokes, modifies, or suspends a tolerance or exemption until the Administrator has taken any necessary action under FIFRA with respect to the registration of the pesticide involved. Requires the Administrator, where a pesticide is labeled for use on a particular food, to: (1) revoke any tolerance or exemption that allows the presence of a particular chemical or its residue in or on such food if the Administrator cancels the registration of each pesticide that contains the chemical or modifies it to prohibit the pesticide's use in connection with such food; and (2) suspend any such tolerance or exemption upon the suspension of the use of each pesticide that contains the chemical. Provides for: (1) tolerances for unavoidable residues in the case of a residue of a canceled or suspended pesticide chemical that will unavoidably persist in the environment and be present in or on a food; and (2) residues resulting from an application which was lawful at the time of application but with respect to which the tolerance or exemption has since been revoked, suspended, or modified.

Prohibits, subject to exception, a State from enforcing any limit on a qualifying pesticide chemical residue (as defined in this Act) in or on any food which is not identical to Federal requirements. Prohibits a State, absent an unreasonable dietary risk, from enforcing a limit on the level of residues in any food if the sale of such food containing such residue level was lawful at the time of application of the pesticide.

Authorizes appropriations for increased monitoring of pesticide residues in imported and domestic food.

Title V: Fees - Amends FIFRA to extend pesticide reregistration fee authority. Authorizes the Administrator to collect up to an additional \$2 million in fees in each of FY 1998 through 2000. Provides additional rules for the use and accounting of funds derived from fees and names the account into which these are deposited the Reregistration and Expedited Processing Fund. Revises and extends authority for funding of expedited processing of similar applications. Sets forth additional accounting and audit standards applicable to the Fund. Requires the Administrator to establish and publish annually performance measures and goals concerning registrations, amendments, and cancellations.

Title VI: Indian Tribes - Provides for the exercise of pesticide regulatory authority by, and primary enforcement authority of, Indian tribes within the boundaries of Federal Indian reservations if at least 50 percent of the reservation lands are owned by the tribe or its members.

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PROFESSIONAL PEST MANAGEMENT PERSONNEL*
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